

Abstract

A merged dual flipped White Cell including a White Cell having upper and lower cell regions; an optical deflector array for selectively deflecting light to either an upper image plane associated with said upper region or to a lower image plane associated with said lower region; a plurality of
5 optical delay lines for receiving and returning delayed light at said upper image plane; and a plurality of reference mirrors and optical input and output ports in optical communication with said deflector array and with said plurality of delay lines. A wavelength tapped delay White Cell including a White Cell optical cavity having a flat mirror plane on a first side thereof and curved mirrors on a second side thereof, the flat mirror plane having an array of frequency-selective taps.
10 Also disclosed are cascaded antenna beamforming systems comprising one or more merged dual flipped White Cells and/or one or more wavelength tapped delay White Cells.